המכללה האקדמית להנדסה בראודה בכרמיאל

AutoScope

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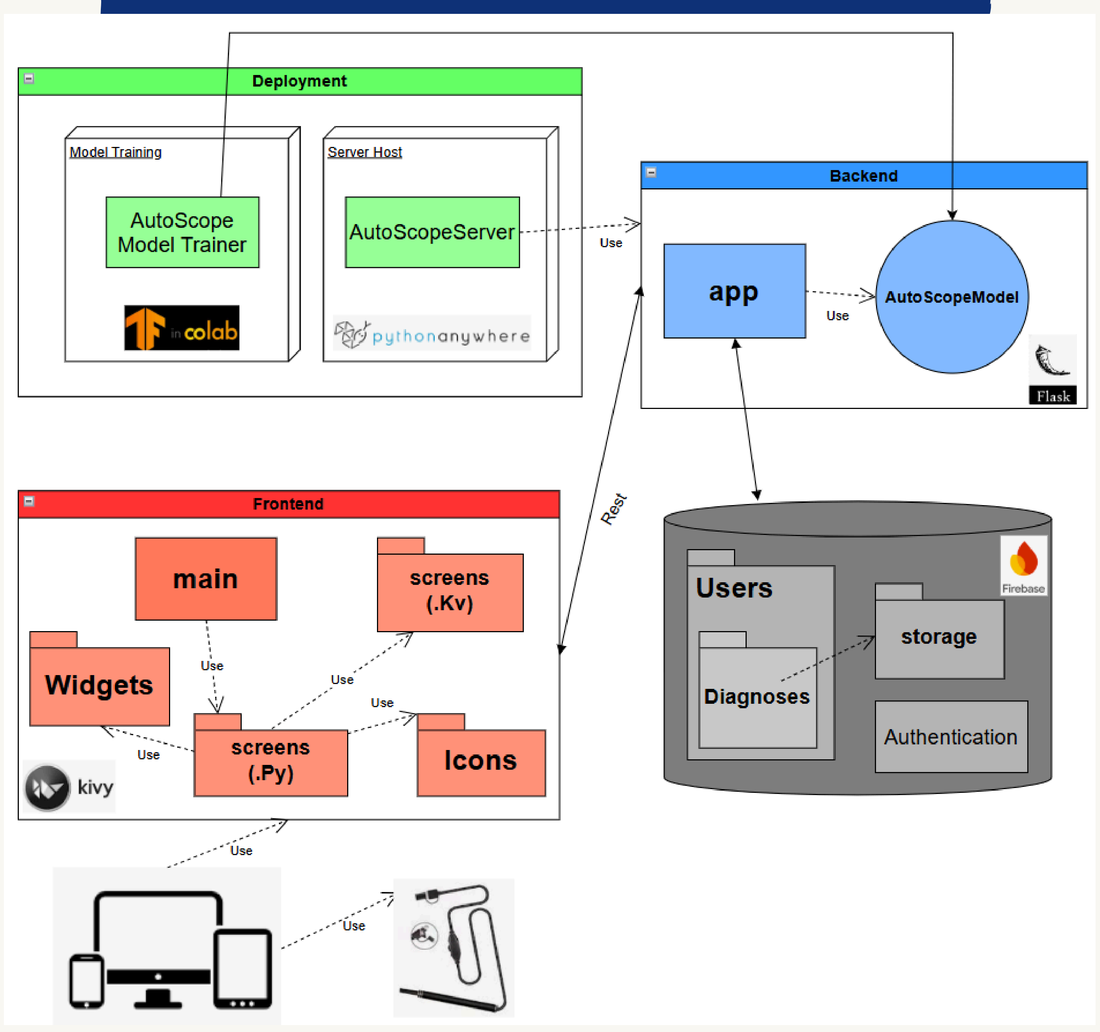
An innovative application designed to assist in detecting ear infections using deep learning technology. By integrating an otoscope for real-time image capture and advanced analysis models, the app provides accurate and user-friendly early diagnostic support.

MOTIVATION

- Prevent severe complications and reduce antibiotic usage by early detection and treatment.
- Easy Monitoring of ear health from home, saving time for patients and doctors.
- Resource optimization and decreased overall medical costs

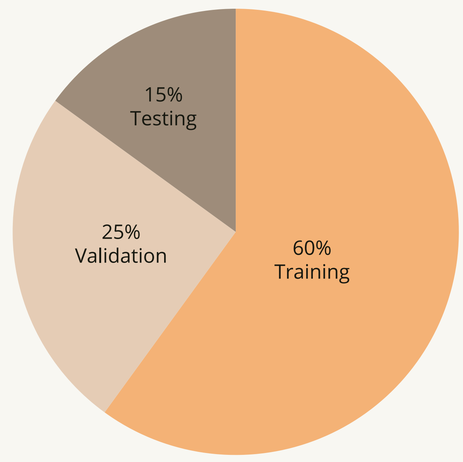
ARCHITECTURE

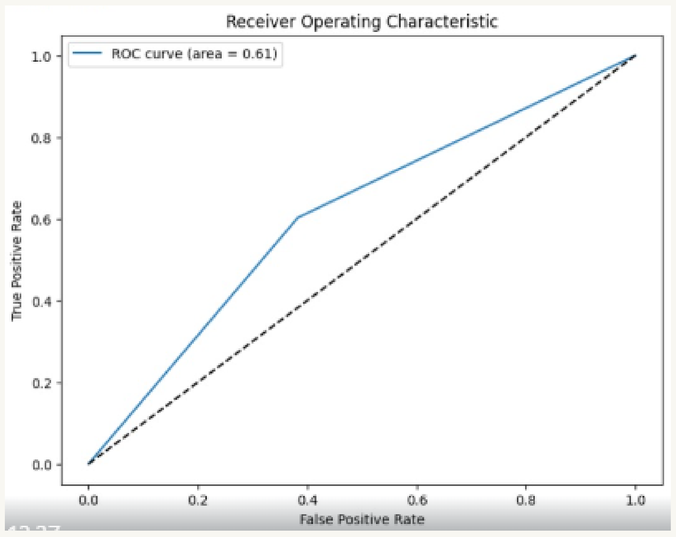


MODEL TRAINING

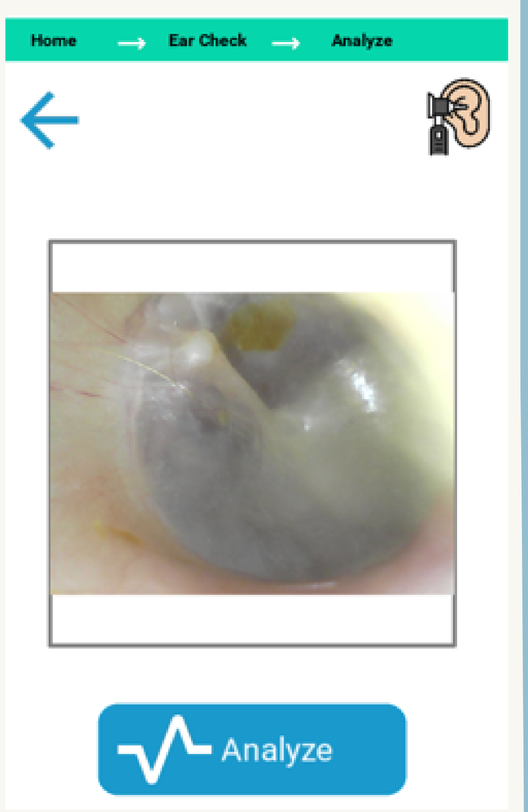
ResNet50 was chosen for its proven ability to handle complex image classification tasks, particularly in medical imaging.

DataSet contains: 415 Infected
590 normal
Class Weights where used to maximize the learning process.





INTERFACE



WHAT'S NEXT ?

- Improve the model's accuracy and relability by expanding the dataset from different sources.
- Distribute the app to doctors for real-world testing and feedback, and Integrate doctor support into the app.
- Explore alternatives solutions to integrate the app with mobile devices and tablets, despite current restrictions.